NCERT

CHAPTER WISE
TOPIC WISE

LINE BY LINE QUESTIONS
2024

BY
SCHOOL OF
EDUCATORS

BIOLOGICAL CLASSIFICATION

BIOLOGICAL CLASSIFICATION

1ST PERSON TO USE SCIENTIFIC CLASSIFICATION ARISTOTLE

- Plants
  - Trees
  - Shrubs
  - Herbs
- Animals
  - Animals with red blood
  - Animals without red blood

2nd KINGDOM CLASSIFICATION SYSTEM LINNAEUS

Kingdom
- Plantae
- Animalia

Drawbacks:- Didn't distinguish between
- Eukaryotes and Prokaryotes
- Unicellular and Multicellular
- Photosynthetic and Non – Photosynthetic organisms

3rd KINGDOM CLASSIFICATUION SYSTEM ERNST HAECKEL

Living organisms
- Animalia
- Plantae
- Protista

Limitations :- Didn't Separate
- Prokaryotes and Eukaryotes -
- Placed Unicellular and 5 multicellular under Protista

5 KINGDOM CLASSIFICATION

1. MONERA

Prokaryotic, Unicellular, Autotrophs, Heterotrophs, Non – cellulosic cell wall, Nuclear membrane absent, Myoplasm :- Pleomorphic, called PPLO (Pleuro Pneumonia like organism)
- Smallest living cells.
- Reproduction – Asexual and Sexual

Eubacteria (True Bacteria)

(i) Photosynthetic Autotrophs

(ii) Chemosynthetic Autotrophs

(iii) Heterotrophic Bacteria

Eg:- Cyanobacteria (blue green algae) has chlorophyll a

Archaebacteria (Ancient living fossils)

(i) Methanogens (marshy areas)

(ii) Halophiles (Salty areas)

(iii) Thermoacidophiles (Hot Springs)

Eg:- Streptococcus thermophilus

2. PROTISTA

- Eukaryotic, Unicellular, Autotropic Heterotrophic, movement by Cilia, flagella, Pseudopodia
- Aquatic
- Reproduction – Asexual and Sexual (Cell fusion and zygote formation)

Protozoans
- Primitive relatives,
- Osmoregulation types:- Amoeboid flagellated Ciliated Sporozoans

Dinoflagellates
- Marine,
- Photosynthetic, 2 flagellated Bioluminescence Eg:- Gonyaulax(Red)

Slime Moulds
Saprophytic, Highly resistance, in favourable condition
- Plasmodium, in Unfavourable condition
- fruiting bodies

Euglenoids
fresh water Photosynthetic (presence of Sunlight), Heterotrophs / absence of Sunlight, eg:- Euglena

Chrysophytes
- fresh water and marine
- Diatoms'chief"producers"in ocean
- Photosynthetic Golden algae & (Unicellular green algae)

Algae

3. FUNGI

- Eukaryotic, Mostly multicellular
- Heterotrophs Saprophytic cell wall – chitin, Some form Aquatic, Moist and damp places.
- Hyphal type:- (i) Coenocytichyphae, (ii) Other with Septae or cross walls
- Mode of Nutrition:- (i) Saprophytic (ii) Parasitic (iii) Symbiotic

Reproduction:- Vegetative Asexual and Sexual.

Phycomycetes (Lower fungi)
Acquatic on decaying wood,moist & damp places
Reproduction – Asexual (Zoospores or Aplanospores)
eg:- Mucor, Rhizopus

Basidiomycetes (Mushrooms)
- In Soil, logs and tree stumps
- Parasites. (eg – rust & smuts)
- Reproduction – Vegetative,
- Mating types and Sex organs.
Eg. Agaricus, Ustilago

Ascomycetes (Sac – fungi)
Unicellular (yeast) and Multicellular (Penicillium)
Asexual Spores (Conidia)
Sexual Spores (Ascospores)
Eg. Aspergillus, Neurospora

Deuteromycetes (Imperfect fungi)
- Reproduction – vegetative and Sexual
- Are Decomposers, Saprophytes and Parasites.
Eg: Alternaria, Trichoderma

4. PLANTAE

- Eukaryotic, Multicellular, Autotrophic, Cell wall – cellulose
- Partially heterotrophs (Insectivorous Plants) Complete Parasails (Cuscuta)
- Shows alteration of generation
- Reproduction – Sexual
- Eg:- Herbs, Shrubs and trees.

Bryophytes · Angiosperms · Pteridophytes · Gymnosperms

5. ANIMALIA

Eukaryotic, Multicellular, Heterotrophic, Cell wall- Absent
Shows locomotion
High Sensory & motor mechanism.
Reproduction – Sexual.
Eg. Vertebrates,insects etc.

- Echinodermata - Starfish
- Hemichrodata - Balanoglossus
- Ctenophora- combjellies
- Mollusca - Snail
- Arthropoda - Grasshopper
- Aschelminthes - Ascaris
- Chordata - Amphioxus
- Platyhelminthes- Fasciola
- Annelida - Earthwarm
- Poritera - Sponge
- Cridaria- Jellyfish

VIRUSES

Non – Cellular
Obligate parasite
Have infectious genetic material
Genetic material – RNA or DNA

Bacteriophage - Virus that infects bacteria
Double Stranded DNA
- Head (capsid)
- Collar
- Sheath
- Tail fibers

Virus cause mumps, Small pox, etc.

PRIONS

- Cause infectious neurological diseases
- Similar in size to viruses Have abnormal folded protein

LICHENS

Symbiotic association between algae and fungi
Algae component Phycobiont
Very good pollution indicators
Fungi component Mycobiont

VIROIDS

Infectious, low molecular weight RNA
lack protein coat
Smaller than viruses

NCERT LINE BY LINE QUESTIONS

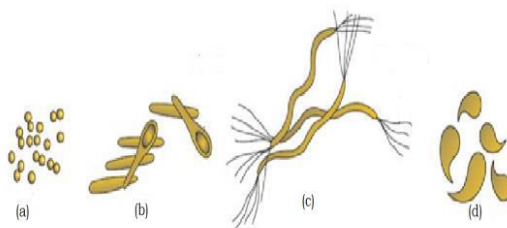
2. Biological Classification

1. Choose the correct with respect to earliest for scientific basis of classification
   A) It was proposed by Aristotle
   B) Plants were divided as trees, shrubs & herbs on the basis of their morphological characters
   C) Animals were classified into two groups that are those which have red blood and those that did not
   D) All of these
2. Linnaeus system of classification did not deal with –
   A) Eukaryotes and prokaryotes B) Unicellular & multicellular
   C) Photosynthetic & non – photosynthetic D) All of these
3. How many kingdom according to five kingdom classification and Linnaeus system of classification is/are dedicated for prokaryotes exclusively
   A) 1, 0 B) 1, 1 C) 2, 0 D) 3, 1
4. Moneran cell wall is composed by-
   A) Polysaccharide (Non cellulose) only B) Polysaccharide (cellulose)
   C) Polysaccharide (chitin)
   D) Amino acid and Non cellulosic polysaccharide
5. Chemosynthetic mode of nutrition is found is –
   A) Monera B) Protist C) Plantae D) Fungi
6. R.H Whittaker classification is/are based upon –
   A) Cell structure & body organization B) Mode of nutrition & reproduction
   C) Phylogentic relationship D) All of these
7. Five kingdom classification was proposed in –
   A) 1969 B) 1996 C) 1699 D) None of these
8. Choose the correct about 3 – domain system
   A) Two domain are dedicated for prokaryotic while one domain is dedicated for eukaryotic
   B) One domain is dedicated for prokaryotic while two domains are for eukaryotic
   C) It has seven kingdom which are categorised in 3 – domain
   D) It has six kingdom of which one kingdom is in first and third domain while 5 – kingdom is second domain.
9. Earlier classification system included bacteria, BGA (blue green algae) fungi, mosses, ferns under 'Plants' on basis of-
   A) Mode of nutrition B) Body organisation & nuclear structure
   C) Presence of cell wall D) Nature of cell wall.
10. How many of following are prokaryotes:
    Bacteria, Mosses, ferns, fungi, pteridophyta, blue green algae, gymnosperms angiosperm
    A) 1 B) 2 C) 3 D) More than 4
11. Fungi has cell wall composed of–
    A) Cellulose B) Non – cellulosic + amino acid
    C) Chitin D) Absence of cell wall
12. How many kingdom from R.H. Whittaker system does have exclusive autotrophic mode of nutrition

    A) Zero B) One C) Two D) Three
13. Unicellular eukaryotic are categorised in-
    A) Monera B) Protista C) Plantae D) Animalia
14. How many of the following does belong to Protista
    Amoeba, Spirogyra, Chlamydomonas, Chlorella, Paramecium
    A) 5 B) 4 C) 3 D) 2
15. In five kingdom classification multicellularity began from –
    A) Animalia B) Plantae C) Protista D) Fungi

Paragraph – 2.1

Kingdom Monera

16. Identify shape of bacteria

A) a = cocci, b = rod – shaped, c = bacilli, d = comma – shaped
B) a = spherical coccus, B = Bacilli, c = spirilla, d = vibrio
C) a = cocci, b = spirilla, c = vibrio, d = Bacilli
D) a = vibrio, b = spirilla, c = bacilli, d = coccus

17. choose the correct statement:
A) Bacteria are sole members of kingdom monera.
B) Bacteria are abundant macro – organism
C) Bacteria occurrence is limited to some area.
D) Bacteria can't live in extreme habitat like desert

18. On the basis of shape; bacteria are grouped under_____ categories
A) Four B) Five C) Three D) None of these

19. Choose the correctly stated statement
A) Bacterial structure and behaviour are complex.
B) Bacterial structure and behaviour are simple
C) Bacterial structure is complex while behaviour is simple
D) Bacterial structure is simple while behaviour is complex

20. Synthesis of own food from inorganic substrate is occur in –
A) Autotrophic nutrition B) Chemosynthetic autotroph
C) Photosynthetic autotroph D) All of these

Paragraph – 2.1.1
Archaebacteria

21. Match the column – I & column – II

Column – I	**Column – II**
(i) Halophiles	(a) Marshy area
(ii) Thermoacidophiles	(b) Salty area
iii) Methanogens	(c) Hot springs

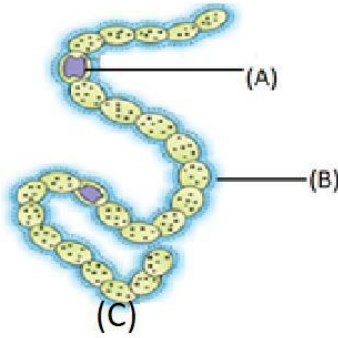
A) i) – c, ii) – b, iii – a B) i) – c, ii) – a, iii – b
C) i) – b, ii) – c, iii – a D) i) – b, ii) – a, iii – c

22. Archaebacteria differ from other bacteria in having –
A) Definite nuclear structure B) Cell wall structure
C) Adaptability cytoplasmic concentration D) Some membranous cell organelles

23. Survival of archaebacteria in extreme condition is achieved by –
A) Cell wall structure B) Some membranous cell organelles
C) Adaptability & cytoplasm D) All of these

24. Which of following statement is/are false
A) Methanogens are present in alimentary canal of several ruminant animals like cow & buffaloes
B) Methanogens are responsible for production of biogas from dung of ruminant animals
C) Methanogens are present in gut of several non – ruminant like cow & buffaloes
D) A & B

Paragraph – 2.1.2
Eubacteria

25. Label A , B and identify organism (c)

A) A = Heterocyst B = Mucilagenous sheath C = Nostoc, an archaebacteria
B) A = Heterocyst B = Mucilagenous sheath C = Nostoc
C) A = Mucilagenous, B = Heterocyst, C = Nostoc
D) A = heterocyst, B = Mucilagenous sheath, C = Nostoc, a filamentous algae

26. Choose the correct about blue green algae
i. Also known as cyanobacteria
ii. Presence of chlorophyll a, b similar to green plants
iii. Photosynthetic autotroph
iv) May be unicellular, colonial or filamentous
v. Occur in aquatic as well as terrestrial
A) i), iii), iv), v) B) i), ii), iii), iv), v) C) i), ii), iv), v) D) None of these

27. Nitrogen fixation is done by –
A) Specialised vegetative cell i.e. Heterocyst of Nostoc & Anabaena
B) Specialised reproductive cell i.e. Heterocyst of Nostac & Anabaena
C) Specialised vegetative as well as reproductive cell i.e. Heterocyst of Nostoc & Anabaena
D) None

28. Choose the wrong statement for chemosynthetic autotroph bacteria
A) They oxidise various inorganic substrate such as nitrates, nitrites & ammonia and use the released Energy for their ATP production
B) They play great role in recycling nutrient like nitrogen phosphorous, iron & sulphur
C) For their energy production they utilize solar energy
D) They can prepare their food from inorganic substrate.

29. Citrus canker is –
A) Plant disease cause by bacteria B) Human disease cause by bacteria
C) Pet disease cause by bacteria D) None of these

30. Which of following is not economic importance of heterotrophic bacteria
A) Making curd from milk B) Antibiotic production
C) N2 fixing in legumes root D) N2 fixing in Anabaena

31. Choose the incorrect option about bacterial reproduction –
A) Bacteria reproduce mainly by fission
B) Under unfavourable condition they produce spores
C) They also reproduce by sexual reproduction
D) They show a sort of sexual reproduction

32. Here are few statement given below, Identify organism on basis of statement)
i. Lack cell wall ii. Smallest living cell known
iii. Can survive without oxygen iv. Pathogenic in animal & plants.
A) Nostoc B) Anabaena C) Mycoplasma D) Chlorella

Paragraph – 2.2
Kingdom Protista-Introduction

33. Protista includes -
A) Unicellular prokaryotes B) Bacteriophages
C) Unicellular eukaryotes D) B.G.A

34. Which of the following kingdoms has no well defined boundaries?
A) Monera B) Protista C) Fungi D) Metaphyta and Metazoa

35. Members of Protista are primarily
A) Parasites B) Terrestrial C) Aquatic D) Photosynthetic

36. Nearly all protists are –
A) Aerobic B) Anaerobic
C) Aerobic or anaerobic D) Photosynthetic

37. Nutritionally, protists are-
A) Photoautotrophs B) Heterotrophs
C) Saprotrophs D) Photoautotrophs, heterotrophs or autotrophs

38. Based upon the modes of nutrition, protists are grouped into –
A) Plant-like protists (algae) and ingestive, animal-like protists (protozoa); and absorptive, fungus like protists
B) Chrysophytes, Dinoflagellates and Euglenoids only
C) Slime moulds and fungi only
D) Flagellated protozoans and sporozoans only

39. Which of the following are placed under Protista-?
A) Chryosophytes and Dinoflagellates B) Euglenoids
C) Slime moulds and protozoans D) All

40. Locomotory structures in protists are –
A) Flagella B) Cilia C) Pseudopodia D) All

41. Protista form a link with –
A) Plants only B) Animals only C) Fungi only D) Plants, animals and fungi

Paragraph – 2.2.1
Chrysophytes

42. Chrysophytes include –
A) Diatoms and desmids (golden algae) B) Euglenoids
C) Dinoflagellates D) Slime moulds

43. Which of the following modes of reproduction can be found in at least some protists?
A) Binary fission B) Sexual reproduction
C) Spore formation D) All

44. Select the following statement that does not apply to diatoms –
A) Diatom cell wall may be impregnated with silicon
B) Cell wall is made up of 2 half-shells fit tightly together
C) Diatom is a chrysophyte D) Diatom is multiflagellate

45. Silica gel (Keieselghur)/Diatomite/Diatomaceous earth is obtained by –
A) Diatoms B) Dinoflagellates C) Euglenoids D) Brown algae

46. The diatoms do not easily decay like most of the other algae because -
A) They have highly siliceous wall B) They have water proof cells
C) Their cell wall are mucilaginous D) Cell wall is virus-resistant

47. Diatomaceous earth is used for all except
A) Polishing B) Filtration of oils and syrups
C) Sound and fire proof room D) Biogas

48. Chrysophytes are -
A) Planktons B) Nektons C) Benthonic D) Active swimmers

49. Chief producers in ocean are -
A) Dinoflagellates B) Diatoms C) Euglenoids D) Green algae

50. Photosynthetic protists are -
A) Euglenoids, Diatoms and Dinoflagellates B) Euglenoids and slime moulds
C) Diatoms and Zooflagellates D) Desmids +Ciliates

Paragraph – 2.2.2
Dinoflagellates

51. Dinoflagellates are mostly-
A) Marine B) Fresh water C) terrestrial D) Saprophytes

52. Red tides in warm coastal water develop due to super abundance of-
A) Dinoflagellates B) Euglenoid forms
C) Diatoms and desmids D) *Chlamydomonas nivalis*

53. Red tide is caused by –
A) Ceretium B) Noctiluca C) Gonyaulax D) All of these

54. Dinoflagellates have –
A) A single flagellum in the transverse groove between the cell plates
B) A single flagellum in the longitudinal groove between the cell plates
C) Two flagella one lies longitudinally and the other transversely in a furrow between the wall plates
D) No flagella

55. In which of the following the cell wall has stiff cellulose plate on the outer surface –
A) Dinoflagellates B) Desmids C) Diatoms D) Euglenoids

56. Which of the following releases toxins that may even kill other marine animals like fishes –
A) Gonyaulax B) Paramecium C) Euglenoids D) Sporozoans

Paragraph – 2.2.3
Euglena

57. Euglenoids e.g. *Euglena* are found –
A) In fresh running water B) In fresh stagnant water
C) In marine environment D) In both fresh and marine water

58. Which of the following statements about *Euglena* is true?
A) Euglenoids are flagellates
B) Euglena placed in continuous darkness loses their photosynthetic activity and die
C) The pigments of Euglena are quite different from those of green plants
D) Euglena is a marine protist

59. Which of the following statement is true about *Euglena?*
A) They show flagellar locomotion B) They have a rigid cell wall
C) They have no chloroplast D) They are obligate autotroph

60. **(Pg. 21, E)**
i. Instead of a cell wall they have a protein rich pellicle making their body flexible.
ii. They have 2 flagella, a short and a long one.
iii. They have mixotrophic nutrition
iv. In light they are photosynthetic, but act as heterotroph (predating other smaller organism) when they are in dark.
v. They are connecting link between plants and animals.
The above statements are assigned to –
A) Dinoflagellates B) Slime mould
C) Desmids and Diatoms D) Euglena

Paragraph – 2.2.4
Slime Moulds

61. Slime moulds –
A) Are parasite B) Do not produce fruiting bodies
C) Do not produce spores D) Saprophytic protists

62. The slimy mass of protoplasm with nuclei forms the body of slime moulds is called –
A) Plasmodium B) Myxamoeba C) Sporocytes D) Periplasmodium

63. Which of the following is correct about the slime mould?
I. Its thalloid body, plasmodium, has pseudopodia for locomotion and engulfing organic matter
II. During unfavourable conditions plasmodium differentiates and produces fruiting bodies, sporangium
III. Spores possess no true cell wall.
IV. They are dispersed by air current.
V. Being extremely resistant, spores survive for many years
VI. Plasmodium can grow upto several feet.
A) I, II, IV, V, VI B) I, II , III C) I, II , III, VI D) II, III , VI

Paragraph – 2.2.5
Protozoans

64. Protozoans are not included in kingdom Animalia because –

A) Mostly asymmetrical
B) Unicellular eukaryotes
C) Heterotrophic nature
D) Multicellular prokaryotes

65. All protozoans are –
A) Saprophytes only
B) Parasites only
C) Predators only
D) Heterotrophs (parasites or predator) only

66. Which of the following is considered to be primitive relatives of animals -?
A) Dinoflagellates
B) Slime moulds
C) Protozoa
D) Protochordata

67. How many major groups protozoan have?
A) 3 B) 4 C) 2 D) 8

68. Which of the following are protozoans?
A) Diatoms, flagellates, ciliates
B) Desmids, flagellates, ciliates
C) Amoeboid, flagellates, ciliates, sporozoans
D) Amoeba, ·Paramecium, dinoflagellates, Plasmodium

69. Which of the following statements is wrong about the amoeboid protozoans?
A) They live in freshwater, sea water or moist soil
B) Amoeba has pseudopodia for locomotion and capture prey
C) Entamoeba show holozoic nutrition
D) Marine forms are shelled with silica

70. Flagellated protozoans are –
A) Free living
B) Parasites
C) Either free living or parasites
D) Pseudopodia

71. Which one is correct about *Trypanosoma?*
A) They are flagellated protozoan
B) They are parasite
C) They cause sleeping sickness
D) All

72. *Paramecium-*
A) Is a ciliated protozoan
B) Shows water current movement by cilia which helps the food to be steered into gullet
C) Has a cavity (gullet) that opens to the outside of the cell surface
D) All

73. Plasmodium (malarial parasite)
A) Is a ciliated protozoan
B) Shows water current movement by cilia which helps the food to be steered into gullet
C) Causes malaria
D) All

74. Which of the following always produce an infectious spore like stage in their life cycles?
A) Ciliated protozoans
B) Flagellated protozoans
C) Sporozoans
D) None

Paragraph – 2.3
Kingdom Fungi - Introduction

75. Mode of nutrition in fungi is not –
A) Parasitic B) Saprophytic C) Autotrophic D) Heterotrophic

76. All of the following are fungi except –
A) Yeast B) Penicillium C) Plasmodium D) Puccinia

77. Which of the following is odd?
A) Toad stool B) Puccinia C) Alternaria D) Mushroom

78. Cell walls of all fungi consist of the polysaccharide –
A) Chitin B) Cellulose C) Silica D) Pectin

79. The body of multicellular fungus is called a –
A) Monokaryon B) Hyphae C) Rhizoids D) Dikaryon

80. The cells of the body of a multicellular fungus are organised into rapidly growing individual filaments called –
A) Mycelium B) Rhizoids C) Hyphae D) Dikaryon

81. Which one is unicellular fungus?
A) Puccinia B) Toad stool C) Penicillium D) Yeast

82. Coenocytic hypha is –

A) Uninucleate hypha	B) Multicellular hypha
C) Multinucleate hypha without septae	D) Hypha in coelom

83. Many fungi are in ____ association with photosynthetic organisms to form mycorrhizae or lichens –

A) Parasitic B) Symbiotic C) Photosynthetic D) Saprobic

84. Fungi can be parasites on –
A) Animals B) Human being C) Plants D) All

85. Fungi prefer to grow in –
A) Cold and dry places B) Hot and dry places
C) Sea water D) Warm and humid places

86. Fungi occur-
A) In air and soil B) In water
C) On plants and animals D) All

87. Fungi show a great diversity in –
A) Morphology B) Habitat
C) Both a and b D) Nutrition

88. Reproduction in fungi can take place by all of the following vegetative methods except-

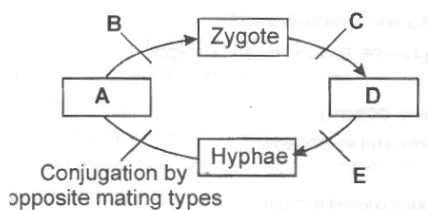
A) Gemmae B) Fragmentation C) Fission D) Budding

89. Fungi show asexual reproduction by all of the following spores except-
A) Conidia B) Oospore C) Sporangiospore D) Zoospores

90. Sexual reproduction in fungi is by all of the following except-
A) Oospores B) Ascopores C) Zoospores D) Basidiospores

91. Select the correct statements below that correctly apply to the Kingdom Fungi-
A) Some fungi form beneficial interrelationships with plants
B) Certain fungi are natural sources of antibiotics
C) The fungal life cycle typically includes a spore stage
D) All

B
Zygote
C
A
D
Hyphae
E
Conjugation by
opposite mating types

92.

93. The above diagram shows a generalized life cycle of a fungus. The appropriate terms for A to E are-

A) Spores are absent in air B) Spores are present in the bread
C) Spores are in the air D) The bread gets decomposed ·

94. Which of the following is the correct sequence of 3 steps in the sexual cycle of fungi-
A) Mitosis ----. Meiosis ----. Fertilization
B) Plasmogamy----. Karyogamy----. Meiosis
C) Meiosis ----. Plasmogamy ----. Karyogamy
D) Karyogamy----. Plasmogamy----. Meiosis

95. Fungi are classified on the basis of –
A) Morphology of mycelium B) Development of fruiting bodies
C) Mode of spore formation D) All

96. Dikaryophase I Dikaryon formation is a specific characteristic of-
A) All fungi B) Phycomycetes and ascomycetes
C) Only basidiomycetes D) Ascomycetes and basidiomycetes

97. Coenocytic, multinucleate and branched mycelial habit is found in-
A) Basidiomycetes B) Phycomycetes
C) Ascomycetes D) Deuteromycetes

9 8. **Column I** **Column II**
A. Phycomycetes I. Sac fungi

B. Ascomycetes — II. Algal fungi
C. Basidiomycetes — III. Fungi imperfecti
D. Deuteromycetes — IV. Club fungi

The correct matching is -

A) A-II, B-I, C- IV, D-III
B) A- II, B - IV, C - I, D – III
C) A- IV, B - I, C - II, D – III
D) A- IV, B - III, C - II, D – I

Paragraph – 2.3.1
Phycomycetes

99. Members of phycomycetes are found-
I. In aquatic habitat
II. On decaying wood
III. On moist and damp places
IV. As obligate parasite on plants
A) None of the above
B) I and IV
C) II and III
D) All of the above

100. In phycomycetes asexual reproduction occurs by-
A) Zoospores (motile)
B) Aplanospores (non-motile)
C) Both
D) Aplanogamete

101. Which of the following spores are produced endogenously?
A) Zoospores and Conidia
B) Conidia and aplanospores
C) Aplanospores and zoospores
D) Aplanospore, zoospores and conidia

102. In Phycomycetes sexual reproduction occurs by
A) Isogamy and anisogamy
B) lsogamy, oogamy
C) Isogamy, anisogamy and oogamy
D) Oogamy and anisogamy

103. All the following belong to phycomycetes except –
A) Penicillium
B) Rhizopus (bread mould)
C) Mucor
D) Albugo

104. Which of the following is parasite on mustard?
A) Albugo
B) Puccinia
C) Yeast
D) Ustilago

Paragraph – 2.3.2
Ascomycetes

105. Which of the following is false about ascomycetes?
A) Mode of nutrition saprophytic, decomposer, coprophilous (growing on dung) and parasitic
B) Includes unicellular (e.g. yeast) and multicellular forms
C) Mycelium is coenocytic
D) Aspergillus, Claviceps, Neurospora are important members of Ascomycetes

106. I. It includes unicellular as well as multicellular fungi
II. In multicellular forms hyphae are branched and septate
III. Conidiophore produces conidia (spores) exogenously in chain
IV. Sexual spores are ascopores produced endogenously in Ascus
V. Fruiting body is called ascocarp
Which of the above characters are show by -?
A) Phycomycetes
B) Sac fungi
C) Club fungi
D) Fungi imperfecti

107. Which of the following are edible ascomycete's delicacies?
A) Morels+ Mushroom
B) Truffles+ Toadstool
C) Morels+ Truffles
D) Puffball+ Mushroom

108. Which of the following is used extensively in biochemical and genetical work?
A) Agaricus
B) Alternaria
C) Neurospora
D) Mucor

109. Which of the following ascomycetes is the source of antibiotic?
A) Neurospora
B) Penicillium
C) Claviceps
D) None

Paragraph – 2.3.3
Basidiomycetes

110. Basidiomycetes include -
A) Mushroom, Toadstool, Puffball and bracket fungi
B) Smut fungi and rust fungi
C) Both a and b
D) Bread mould, sac fungi and algal fungi

111. Which of the following are common parasite basidiomycetes
A) Puccinia (rust) and Ustilago (smut)
B) Sac fungi
C) Puffballs
D) Agaricus (mushroom)

112. Where does meiosis occur in mushroom?
A) Basidiospore
B) Basidium
C) Basidiocarp
D) Ascus mother cell

113. I. Mycelium is branched and septate
II. No asexual spores are generally formed
III. Vegetative reproduction by fragmentation is common
IV. Sex organs are absent but sexual reproduction takes place by somatogamy
V. Karyogamy and meiosis occur in basidium to form haploid exogenous 4 basidiospores
VI. Basidia are arranged in basidiocarp.
The above characters are assigned to –
A) Sac fungi
B) Club fungi
C) Algal fungi
D) Fungi imperfect

114. Plasmogamy in fungi is the fusion of-
A) Two haploid gamete cells and their nuclei at once
B) Two haploid nuclei
C) Two haploid gamete cells
D) Two diploid vegetative cells with nuclei

115. Karyogamy is -
A) Fusion of two protoplasts
B) Fusion of two nuclei
C) Fusion of two plasma membranes
D) All of these

Paragraph – 2.3.4
Deuteromycetes

116. Which of the following is false about deuteromycetes? (
A) They reproduce only by asexual spores (conidia)
B) Mycelium is branched and septate
C) They have only parasitic forms
D) They have no sexual stage (perfect stage)

117. Which of the following is correct about class Deuteromycetes?
A) Some members are saprophytes or parasites
B) A large number of members are decomposers of litter and help in mineral cycling
C) Alternaria, Colletotrichum and Trichoderma are deuteromycetes
D) All

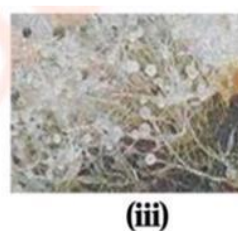
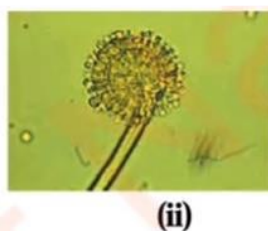
118. Sexual reproduction is found in all except
A) Deuteromycetes
B) Ascomycetes
C) Phycomycetes
D) Basidiomycetes

119. If sexual stage is discovered in a member of deuteromycetes, it is moved to-
A) Phycomycetes
B) Basidiomycetes
C) Ascomycetes
D) Both band c

Diagram Based Questions

120. Identify the diagram.
(A) (i) Mucor (ii) Aspergillus (iii) Agaricus
(B) (i) Aspergillus (ii) Mucor (iii) Agaricus
(C) (i) Agaricus (ii)Aspergillus (iii) Mucor
(D) (i) Agaricus (ii) Mucor (iii) Aspergillus

121. Identify the diagram.

(i) (ii) (iii)

A) (i) Dinoflagellates (ii) Euglena
B) (i) Dinoflagellates (ii) Paramoceium
C) (i) Euglena (ii) Dinoflagellates
D) (i) Slime mould (ii) Paramecium

122. Kingdom plantae includes-
i. All eukaryotic chlorophyllous organisms
ii. Some prokaryotic chlorophyllous organisms
iii. Few eukaryotic partial heterotrophic plant
iv. Few prokaryotic partial heterotrophic plant
A) i, iii B) ii, iv C) i, ii, iii D) i, iii, iv

123. Plantae does not includes how many of following-
Algae, Fungi, Bryophyte, Bladderwort, Pteridophyta, Gymnosperm, Angiosperm
A) Zero B) One C) Two D) Three

124. Life cycle of angiosperms plant have-
A) Diploid sporophyte & diploid gametophyte
B) Diploid gametophyte & haploid sporophyte
C) Diploid sporophyte & haploid gametophyte
D) Haploid sporophyte & haploid gametophyte

125. How many of following enlisted are correct about plantae-
I. Cells have eukaryotic structure
II. Prominent chloroplast
III. Cellulosic cell wall
IV. Life cycle has three distinct phase
V. Show alteration of generation
A) One B) Two C) Three D) Four

Paragraph – 2.5
Kingdom Animalia

126. Kingdom Animalia are characterized by
A) Heterotrophic eukaryotic unicellular & multicellular organism that lack cell wall
B) Holozoic ,digest food in an internal cavity and store food as complex carbohydrates or fat
C) Higher as well as lower forms show elaborate sensory mechanisms
D) All of the above

127. How many of following term is correct about Animalia- Heterotroph, eukaryotic, prokaryotic, unicellular, multicellular, store food as glycogen, presence of elaborated neuromotor mechanism without any exception, embryological development
A) 6 B) More than 6 C) 5 D) Less than 3

Paragraph – 2.6
Viruses, viroids, prions, & lichens

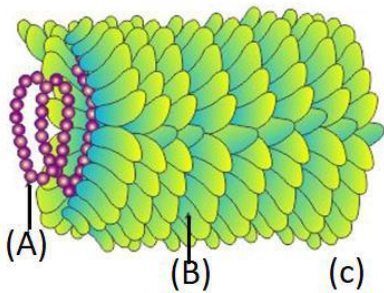
128. In R.H Whittaker system, viroids, prions & lichens are grouped into-
A) Monera B) Protista
C) Protista and fungi D) None of these

129. Viruses did not place in classification due to-
A) Lack in study of viruses
B) They are not considered truly 'living'
C) Lack of genetic material
D) All of these

130. Viruses are not-
A) Non-cellular organism
B) Inert crystalline structure outside the living cell
C) Active crystalline structure outside the living cell
D) Once they infect a cell they take over the machinery of host cell to replicate themselves, killing the host

131. The name viruses-
A) which means venom was given by Dmitri Ivanowsky
B) which means venom was given by M.W. Beijerinek

C) which means venom was given by Stanley
D) which means venom was given by Pasteur

132.

Identify a, b & organism(c)
A) a=DNA, b=capsid, c=TMV
B) a=RNA, b=capsid, c=TMV
C) a=capsid, b=DNA, c=bacteriophage
D) a=capsid, b=RNA, c=bacteriophage

133. choose the correct statement –
A) genetic material of mosaic disease of tobacco causing organism is DNA
B) Viruses were found to be smaller than bacteria but they can passed through bacteria proof filters
C) M.W Beijerinek (1898) demonstrated that the extract of infected plant of tobacco could cause infection in healthy plants
D) Viruses were found to be smaller than bacteria and they can passed through bacteria proof filters.

134. Contagium vivum fluidum was stated by –
A) Dmitri lavanowsky (1898)
B) M.W. Beijerinek (1892)
C) W.M. Stanley (1935)
D) None of these

135. Who showed that viruses could be crystallized & crystals outside host-
A) W.M. Stanley(1935)
B) M.W.Beijerinek (1898)
C) Dmitri lvanowsky (1892)
D) M.W. Stanley (1898)

136. Which of following is major constituent in crystallined virus structure –
A) Carbohydrate
B) Protein
C) Fat
D) Nucleic acid

137. Viruses are
A) Autotroph
B) Obligate parasite
C) Saprotroph
D) Holozoic

138. Genetic material of viruses are/is –
A) DNA
B) RNA
C) DNA and RNA both in an individual virus
D) DNA or RNA in an individual virus

139. The infection material of viruses is/are
A) Protein coat
B) Genetic material
C) Nucleoprotein
D) All of these

140. In general viruses that infect plants have-
A) ds RNA
B) ss RNA
C) ds DNA
D) ss DNA

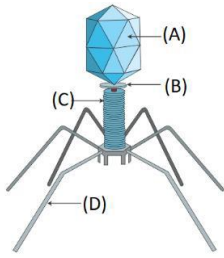
141. Animal infection viruses are not generally
A) ss RNA
B) ds RNA
C) ds DNA
D) ss DNA

142. genetic material of bacteriophage is –
A) ds DNA
B) ss RNA
C) ds RNA
D) ss DNA

143. bacteriophage is –
A) bacteria that infect virus
B) virus that infect bacteria
C) bacteria that infect cellular organism
D) virus that infect other than bacteria

144. The protein coat called ___(A)___ made of small subunit called ____(B)____ that protect ____(C)____ of virus
A) A = capsomere, B = capsid, C= genetic material
B) A = capsid, B = capsomere, C = genetic material
C) A = capsid, B = capsomere, C = enzyme and mineral
D) A = capsomere, B = capsid, C = enzyme and mineral

145. Head of bacteriophage is –
A) Helical B) Polyhedral C) Icosahedral D) A & B

146.

A) A = head B = sheath, C = tail fibers, D = Collar
B) A = head B = collar C = sheath, D = tail fibers
C) A = collar B = head C = tail fibers D = sheath
D) A = tail fibers B = sheath C = head D = collar

147. Viroid was discovered by –
A) T.O. Diener (1971)
B) W.M. Stanley (1935)
C) T.O diener (1935)
D) W.M. Stanley (1971)

148. Choose the correct on basis of size :
A) Bacteria<virus<viroid
B) Viroid<virus<bacteria
C) Viroid>bacteria<virus
D) Bacteria>viroid>virus

149. Given below are statement (i-vi) choose correct set
i. Viroid=virus-capsid
ii. Potato spindle disease cause by prions
iii. Viroid have free DNA
iv. Viroid have free RNA
v. DNA of viroid was of low molecular weight
iv. RNA of viroid was of light molecular weight
A) i,iv only B) i, vi, iii C) i, iv, vi D) i, iii, v

150. Prion cause-
A) BSE in cattle and CJD in human
B) BSE in human and CJD in cattle
C) BSE and CJD cause in cattle
D) BSE and CJD cause in human

151. Prions are-
A) Smaller than virus
B) Larger than virus
C) Smaller than viroid
D) Similar in size to viruses

152. Choose the incorrect about BSE
A) It expanded as Bovine spongiform encephalophathy
B) Caused by prion
C) Its analogous variant is CJD
D) Its homologous variant is CJD

153. Lichen are –
A) Saprotroph only
B) Symbiotic
C) Parasitic only
D) A & C

154. Lichen are mutual association of-
A) Mycobiont (fungal) and phycobiont (algae)
B) Gymnosperm root & fungi
C) Algae & gymnosperm root
D) All of these

155. Mycobiont and phycobiout are ___&___ respectively
A) Autotrophic & heterotrophic
B) Autotrophic & autotrophic
C) Heterotrophic & autotrophic
D) Heterotrophic & heterotrophic

156. The function of fungal part is lichen is/are

A) Water absorption
B) Mineral absorption
C) Provide shelter
D) All of these

157. Lichen cannot grow in –
A) Polluted area
B) Area where there is no pollution
C) Association between fungi and algae is unpolluted region
D) All of these

NEET PREVIOUS YEARS QUESTIONS

1. Select the **incorrect** statement. **[2018]**
(a) Cell wall is present in members of fungi and plantae.
(b) Mushrooms belong to basidiomycetes.
(c) Mitochondria are the powerhouse of the cell in all kingdoms except monera.
(d) Pseudopodia are locomotory and feeding structures in sporozoans.

2. Which among the following is not a prokaryote? **[2018]**
(a) *Saccharomyces* (b) Mycobacterium (c) *Oscillatoria* (d) *Nostoc*

3. Ciliates differ from all other protozoans in **[2018]**
(a) using flagella for locomotion.
(b) having a contractile vacuole for removing excess water.
(c) having two types of nuclei.
(d) using pseudopodia for capturing prey.

4. Which of the following organisms are known as chief producers in the oceans? **[2018]**
(a) Dinoflagellates (b) Diatoms (c) Euglenoids (d) Cyanobacteria

5. After karyogamy followed by meiosis, spores are produced exogenously in __________. **[2018]**
(a) *Neurospora* (b) *Alternaria* (c) *Saccharomyces* (d) *Agaricus*

6. Which of the following components provides sticky character to the bacterial cell? **[2017]**
(a) Nuclear membrane (b) Plasma membrane (c) Glycocalyx (d) Cell wall

7. Which of the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen? **[2017]**
(a) *Pseudomonas* (b) *Mycoplasma* (c) *Nostoc* (d) *Bacillus*

8. Which of the following are found in extreme saline conditions? **[2017]**
(a) Eubacteria (b) Cyanobacteria (c) Mycobacteria (d) Archaebacteria

9. Viroids differ from viruses in having **[2017]**
(a) DNA molecules without protein coat.
(b) RNA molecules with protein coat.
(c) RNA molecules without protein coat.
(d) DNA molecules with protein coat.

10. Chrysophytes, euglenoids, dinoflagellates and slime moulds are included in which of the following kingdom? **[2016]**
(a) Monera (b) Protista (c) Fungi (d) Animalia

11. One of the major components of cell wall of most fungi is __________. **[2016]**
(a) chitin (b) peptidoglycan (c) cellulose (d) hemicellulose

12. Which one of the following statements is **incorrect**? **[2016]**
(a) *Cyanobacteria* are also called blue-green algae.
(b) Golden algae are also called desmids.
(c) Eubacteria are also called false bacteria.
(d) Phycomycetes are also called algal fungi.

13. Which of the following statements is **incorrect** for viroids? **[2016]**
(a) They lack a protein coat.
(b) They are smaller than viruses.
(c) They cause infections.
(d) Their RNA is of high molecular weight.

14. Which of the following structures is not found in a prokaryotic cell? **[2015]**
(a) Ribosome (b) Mesosome (c) Plasma membrane (d) Nuclear envelope

15. The structures that help some bacteria to attach to rocks and / or host tissues are : **[2015]**
(a) Fimbriae (b) Mesosomes (c) Holdfast (d) Rhizoids

16. Pick up the **incorrect** statement. **[2015]**
(a) Protista have photosynthetic and heterotrophic modes of nutrition.
(b) Some fungi are edible.
(c) Nuclear membrane is present in monera.

(d) Cell wall is absent in animalia.

17. In which group of organisms the cell walls form two thin overlapping shells which fit together? **[2015]**

(a) Euglenoids (b) Dinoflagellates (c) Slime moulds (d) Chrysophytes

18. The imperfect fungi which are decomposer of litter and help in mineral cycling belong to : **[2015]**

(a) Basidiomycetes (b) Phycomycetes (c) Ascomycetes (d) Deuteromycetes

19. Which one is **incorrect** statement? **[2015]**

(a) *Mucor* has biflagellate zoospores.
(b) Haploid endosperm is a typical feature of gymnosperms.
(c) Brown algae have chlorophyll *a* and *c* and fucoxanthin.
(d) Archegonia are found in bryophyta, pteridophyta and gymnosperms.

20. Choose the **incorrect** statements. **[2015]**

(a) *Neurospora* is used in the study of biochemical genetics.
(b) Morels and truffles are poisonous mushrooms.
(c) Yeast is unicellular and useful in fermentation.
(d) *Penicillium* is multicellular and produces antibiotics.

21. Which one of the following matches is correct? **[2015]**

a)	*Alternaria*	Sexual reproduction absent	Deuteromycetes
b)	*Mucor*	Reproduction by conjugation	Ascomycetes
c)	*Agaricus*	Parasitic fungus	Basidiomycetes
d)	*Phytophthora*	Aseptate mycelium	Basidiomycetes

22. True nucleus is absent in __________. **[2015]**

(a) *Mucor* (b) *Vaucheria* (c) *Volvox* (d) *Anabaena*

23. Which of the following are most suitable indicators of SO2 pollution in the environment? **[2015]**

(a) Conifers (b) Algae (c) Fungi (d) Lichens

24. Viruses have **[2014]**

(a) DNA enclosed in a protein coat. (b) prokaryotic nucleus.
(c) single chromosome. (d) both DNA and RNA.

25. Five kingdom system of classification suggested by R.H.Whittaker is not based on **[2014]**

(a) presence or absence of a well-defined nucleus. (b) mode of reproduction.
(c) mode of nutrition. (d) complexity of body organisation.

26. Archaebacteria differ from eubacteria in : **[2014]**

(a) Cell membrane (b) Mode of nutrition (c) Cell shape (d) Mode of reproduction

27. The motile bacteria are able to move by : **[2014]**

(a) fimbriae (b) flagella (c) cilia (d) pili

28. Which one of the following fungi contains hallucinogens? **[2014]**

(a) *Morchella esculenta* (b) *Amanita muscaria* (c) *Neurospora sp.* (d) *Ustilago sp.*

29. Which of the following shows coiled RNA strand and capsomeres? **[2014]**

(a) Polio virus (b) Tobacco mosaic virus
(c) Measle virus (d) Retrovirus

30. Which of the following statements is incorrect? **(NEET-2019)**

(1) Viroids lack a protein coat (2) Viruses are obligate parasites
(3) Infective constituent in viruses is the protein coat
(4) Prions consist of abnormally folded proteins

31. Which of the following statements is incorrect? **(NEET-2019)**

(1) Morels and truffles are edible delicacies.
(2) Claviceps is a source of many alkaloids and LSD.
(3) Conidia are produced exogenously and ascospores endogenously.
(4) Yeasts have filamentous bodies with long thread-like hyphae.

32. Match Column - I with Column - II. **(NEET-2019)**

Column - I	**Column - II**
(a) Saprophyte	(i) Symbiotic association of fungi with plant roots
(b) Parasite	(ii) Decomposition of dead organic materials

(c) Lichens (iii) Living on living plants or animals
(d) Mycorrhiza (iv) Symbiotic association of algae and fungi
Choose the correct answer from the options given below :
(a) (b) (c) (d)
(1) (i) (ii) (iii) (iv)
(2) (iii) (ii) (i) (iv)
(3) (ii) (i) (iii) (iv)
(4) (ii) (iii) (iv) (i)

33. Mad cow disease in catttle is caused by an organism which has :- **(NEET-2019 ODISSA)**
(1) inert crystalline structure (2) abnormally folded protein
(3) free RNA without protein coat (4) free DNA without protein coat

34. Which of the following statements is correct ? **(NEET-2019 ODISSA)**
(1) Lichens do not grow in polluted areas.
(2) Algal component of lichens is called mycobiont.
(3) Fungal component of lichens is called phycobiont
(4) Lichens are not good pollution indicators.

35. Match the organisms in column-I with habitats in column-II **(NEET-2019 ODISSA)**

Column-I	**Column-II**
(a) Halophiles	(i) Hot springs
(b) Thermoacidophiles	(ii) Aquatic environment
(c) Methanogens	(iii) Guts of ruminants
(d) Cyanobacteria	(iv) Salty area

Select the correct answer from the options given below :-
(1) (a)-(iv), (b)-(i), (c)-(iii), (d)-(ii) (2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
(3) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i) (4) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

36. Which of the following is incorrect about Cynobacteria? **(NEET-2020 COVID)**
(1) They are photoautotrophs
(2) They lack heterocysts
(3) They often form blooms in polluted water bodies
(4) They have chlorophyll A similar to green plants

37. Which of the following is correct about viroids? **(NEET-2020)**
1) They have free DNA without protein coat
2) They have RNA with protein coat
3) They have free RNA without protein coat
4) They have DNA with protein coat

38. Which of the following statements is **correct**? **[NEET-2021]**
1) Fusion of protoplasms between two motile on non-motile gametes is called plasmogamy.
2) Organisms that depend on living plants are called saprophytes.
3) Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells.
4) Fusion of two cells is called Karyogamy.

39. Given below are two statements: **[NEET-2022]**
Statement I: Mycoplasma can pass through less than 1 micron filter size.
Statement II: Mycoplasma are bacteria with cell wall.
In the light of the above statements, choose the most appropriate answer from the options given below:
1) Both statements I and Statements II are correct
2) Both statement I and Statement II are incorrect
3) Statement I is correct but Statement II is incorrect
4) Statement I is incorrect but Statement II is correct

40. Which of the following is a correct statement? [NEET-2022]
1) Cyanobacteria area a group of autotrophic organisms classified under Kingdom Monera
2) Bacteria are exclusively heterotrophic organisms
3) Slime moulds are saprophytic organisms classified under Kingdom Monera
4) Mycoplasma have DNA, Ribosome and cell wall

NCERT LINE BY LINE QUESTIONS – ANSWERS

1) D	2) D	3) A	4) D	5) A	6) D	7) A	8) A	9) C	10) B
11) C	12) D	13) B	14) A	15) D	16) B	17) A	18) A	19) D	20) A
21) C	22) B	23) A	24) D	25) D	26) A	27) A	28) C	29) A	30) D
31) C	32) C	33) C	34) B	35) C	36) A	37) D	38) A	39) D	40) D
41) D	42) A	43) D	44) D	45) A	46) A	47) D	48) A	49) B	50) A
51) A	52) A	53) C	54) C	55) A	56) A	57) B	58) A	59) A	60) D
61) D	62) A	63) A	64) B	65) D	66) C	67) B	68) C	69) D	70) C
71) D	72) D	73) C	74) C	75) C	76) C	77) C	78) A	79) B	80) C
81) D	82) C	83) B	84) D	85) D	86) D	87) C	88) A	89) B	90) C
91) D	92) B	93) C	94) B	95) D	96) D	97) B	98) A	99) D	100) C
101) C	102) C	103) A	104) A	105) C	106) B	107) C	108) C	109) B	110) C
111) A	112) B	113) B	114) C	115) D	116) C	117) D	118) A	119) D	120) C
121) B	122) A	123) B	124) C	125) D	126) D	127) C	128) D	129) B	130) C
131) A	132) B	133) D	134) D	135) A	136) B	137) B	138) D	139) B	140) B
141) D	142) A	143) B	144) B	145) D	146) B	147) A	148) B	149) C	150) A
151)D	152) D	153) B	154) A	155) C	156) D	157) A			

NEET PREVIOUS YEARS QUESTIONS-ANSWERS

1) d	2) a	3) c	4) b	5) d	6) c	7) b	8) d	9) c	10) b
11) a	12) c	13) d	14) d	15) a	16) c	17) d	18) d	19) a	20) b
21) a	22) d	23) d	24) a	25) a	26) a	27) b	28) b	29) b	30) 3
31) 4	32) 4	33) 2	34) 1	35) 1	36) 2	37) 3	38) 1	39) 3	40) 1

NEET PREVIOUS YEARS QUESTIONS-EXPLANATIONS

1. (d) Pseudopodia are locomotory structures in sarcodines (amoeboid).

2. (a) *Saccharomyces* i.e. yeast is an eukaryote (unicellular fungi). Mycobacterium is a bacterium. *Oscillatoria* and *Nostoc* are cyanobacteria.

3. (c) Ciliates differs from other protozoans in having two types of nuclei. E.g., *Paramoecium* have two types of nuclei *i.e.* macronucleus & micronucleus.

4. (b) Diatoms are the chief producers or the most common form of phytoplankton in the ocean. They utilise inorganic nutrients to form proteins, fats and organic material & provide food for various sea creatures.

5. (d) In *Agaricus* (a genus of basidiomycetes), basidiospores or meiospores are produced exogenously. *Neurospora* (a genus of ascomycetes) produces ascospores as meiospores but endogenously inside the ascus). *Alternaria* (a genus of deuteromycetes) does not produce sexual spores. *Saccharomyces* (unicellular ascomycetes) produces ascospores, endogenously.

6. (c) Sticky character of the bacterial wall is due to glycocalyx which is rich in glycoproteins.

7. (b) Mycoplasmas are smallest, prokaryotes lacking cell wall and are pleomorphic in nature. These are pathogenic to both plants and animals.

8. (d) Archaebacteria are able to survive in harsh conditions due to the presence of branched lipid chain in cell membrane that reduces fluidity of cell membrane. It includes halophiles which are exclusively found in saline habitats.

9. (c) Viroids are sub-viral agents as infectious RNA particles, without protein coat.

10. (b) All unicellular eukaryotic organism like diatoms, desmids (chrysophytes), euglenoids, dinoflagellates and slime mould are included in protista.

11. (a)

12. (c) Eubacteria are the true bacteria.

13. (d)

14. (d) Nuclear envelope is not found in a prokaryotic cell.

15. (a) Fimbriae help bacteria to get attachment with rocks or host body to get establishment and nutrition.

16. (c) The kingdom monera possesses unicellular organisms (e.g - bacteria) having no nuclear membrane.

17. (d) In chrysophytes, the cell walls form two thin overlapping shells held together. The body of diatoms appears like soap box due to overlapping shells.

18. (d) Class-deuteromycetes contains imperfect fungi which play an important role in decomposition of Organic wastes.
19. (a) The spores are non-motile in *Mucor*.
20. (b) Morel and truffles are used as food and they are members of ascomycetes fungi.
21. (a) *Alternaria* belongs to class - deuteromycetes, which lack sexual reproduction. Asexual reproduction Takes place by conidia produced on conidiophores.
22. (d) *Anabaena* is a cyanobacteria which lack a true nucleus because of absence of nuclear membrane.
23. (d) Lichens cannot grow in the place where sulphur dioxide, pollutant is available in the environment.
24. (a)
25. (a)
26. (a) Archaebacteria differ from other bacteria in having a different cell wall structure. They lack peptidoglyan in cell wall and possess a monolayer of branched fatty acids attached to glycerol by ether bonds in their cell membranes.
27. (b) Motile bacteria have thin filamentous extensions from their cell wall called flagella.
28. (b) Several mushrooms such as *Amanita muscaria*, *Psilocybe mexicana* and *Panaeolus* spp. secrete hallucinogenic substances like psilocybin and psilocin.
These substances may destroy brain cells and perception power of human beings.
29. (b)

37. Viroids are infectious nucleic acid contains only ssRNA

38. Fusion of protoplasm between two motile or non – motile gametes is called plasmogamy
39 Mycoplasma are bacteria with out cell wall.
40. CYANOBACTERIA comes under KINGDOM Monera

JOIN OUR WHATSAPP GROUPS

FOR FREE EDUCATIONAL RESOURCES

JOIN SCHOOL OF EDUCATORS WHATSAPP GROUPS FOR FREE EDUCATIONAL RESOURCES

We are thrilled to introduce the School of Educators WhatsApp Group, a platform designed exclusively for educators to enhance your teaching & Learning experience and learning outcomes. Here are some of the key benefits you can expect from joining our group:

BENEFITS OF SOE WHATSAPP GROUPS

- **Abundance of Content:** Members gain access to an extensive repository of educational materials tailored to their class level. This includes various formats such as PDFs, Word files, PowerPoint presentations, lesson plans, worksheets, practical tips, viva questions, reference books, smart content, curriculum details, syllabus, marking schemes, exam patterns, and blueprints. This rich assortment of resources enhances teaching and learning experiences.

- **Immediate Doubt Resolution:** The group facilitates quick clarification of doubts. Members can seek assistance by sending messages, and experts promptly respond to queries. This real-time interaction fosters a supportive learning environment where educators and students can exchange knowledge and address concerns effectively.

- **Access to Previous Years' Question Papers and Topper Answers:** The group provides access to previous years' question papers (PYQ) and exemplary answer scripts of toppers. This resource is invaluable for exam preparation, allowing individuals to familiarize themselves with the exam format, gain insights into scoring techniques, and enhance their performance in assessments.

- **Free and Unlimited Resources:** Members enjoy the benefit of accessing an array of educational resources without any cost restrictions. Whether its study materials, teaching aids, or assessment tools, the group offers an abundance of resources tailored to individual needs. This accessibility ensures that educators and students have ample support in their academic endeavors without financial constraints.

- **Instant Access to Educational Content:** SOE WhatsApp groups are a platform where teachers can access a wide range of educational content instantly. This includes study materials, notes, sample papers, reference materials, and relevant links shared by group members and moderators.

- **Timely Updates and Reminders:** SOE WhatsApp groups serve as a source of timely updates and reminders about important dates, exam schedules, syllabus changes, and academic events. Teachers can stay informed and well-prepared for upcoming assessments and activities.

- **Interactive Learning Environment:** Teachers can engage in discussions, ask questions, and seek clarifications within the group, creating an interactive learning environment. This fosters collaboration, peer learning, and knowledge sharing among group members, enhancing understanding and retention of concepts.

- **Access to Expert Guidance:** SOE WhatsApp groups are moderated by subject matter experts, teachers, or experienced educators can benefit from their guidance, expertise, and insights on various academic topics, exam strategies, and study techniques.

Join the School of Educators WhatsApp Group today and unlock a world of resources, support, and collaboration to take your teaching to new heights. To join, simply click on the group links provided below or send a message to +91-95208-77777 expressing your interest.

Together, let's empower ourselves & Our Students and inspire the next generation of learners.

Best Regards,
Team
School of Educators

Subject Wise Secondary and Senior Secondary Groups (IX & X For Teachers Only)

Secondary Groups (IX & X)

Senior Secondary Groups (XI & XII For Teachers Only)

Subject Wise Secondary and Senior Secondary Groups (IX & X For Students Only)

Secondary Groups (IX & X)

SST

Mathematics

Science

English

Hindi

IT Code

Artificial Intelligence

Senior Secondary Groups (XI & XII For Students Only)

Physics

Chemistry

English

Mathematics

Biology

Accountancy

Economics

BST

History

Groups Rules & Regulations:

To maximize the benefits of these WhatsApp groups, follow these guidelines:

1. Share your valuable resources with the group.
2. Help your fellow educators by answering their queries.
3. Watch and engage with shared videos in the group.
4. Distribute WhatsApp group resources among your students.
5. Encourage your colleagues to join these groups.

Additional notes:
1. Avoid posting messages between 9 PM and 7 AM.
2. After sharing resources with students, consider deleting outdated data if necessary.
3. It's a NO Nuisance groups, single nuisance and you will be removed.
   - No introductions.
   - No greetings or wish messages.
   - No personal chats or messages.
   - No spam. Or voice calls
   - Share and seek learning resources only.

Please only share and request learning resources. For assistance, contact the helpline via WhatsApp: +91-95208-77777.

SKILL MODULES BEING OFFERED IN MIDDLE SCHOOL

Artificial Intelligence

Beauty & Wellness

Design Thinking & Innovation

Financial Literacy

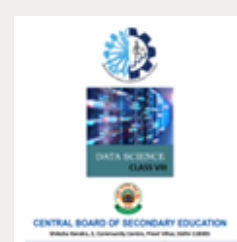
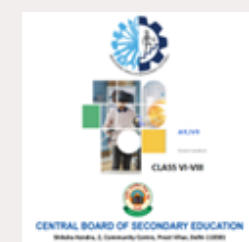
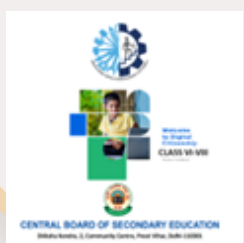
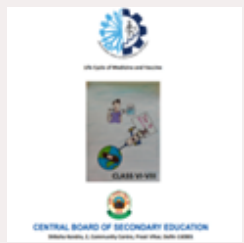
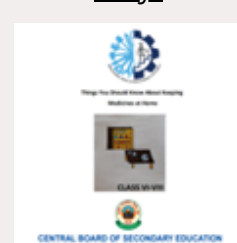
Handicrafts

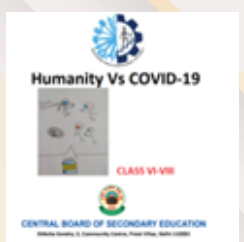
Information Technology

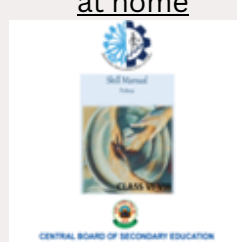
Marketing/Commercial Application

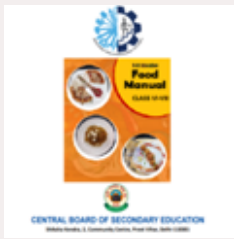
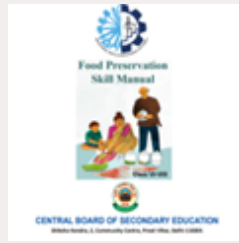
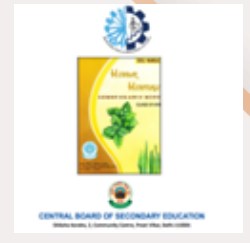
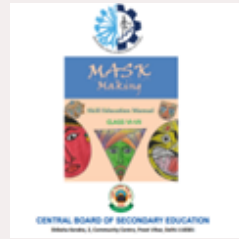
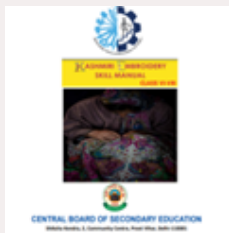
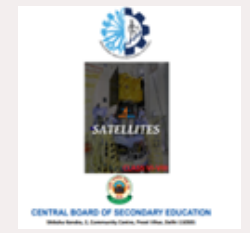
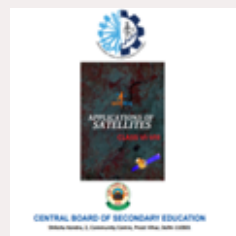
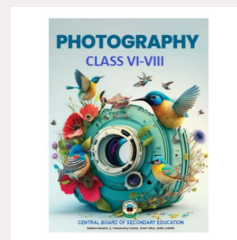
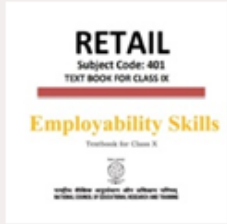
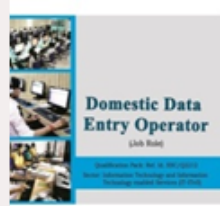
Mass Media - Being Media Literate

Travel & Tourism

Coding

Data Science (Class VIII only)

Augmented Reality / Virtual Reality

Digital Citizenship

Life Cycle of Medicine & Vaccine

Things you should know about keeping Medicines at home

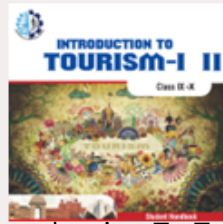
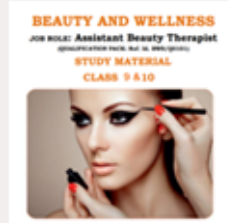
What to do when Doctor is not around

Humanity & Covid-19

Blue Pottery

Pottery

Block Printing

SKILL SUBJECTS AT SECONDARY LEVEL (CLASSES IX – X)

Retail

Information Technology

Security

Automotive

Introduction To Financial Markets

Introduction To Tourism

Beauty & Wellness

Agriculture

Food Production

Front Office Operations

Banking & Insurance

Marketing & Sales

Health Care

Apparel

Multi Media

Multi Skill Foundation Course

Artificial Intelligence

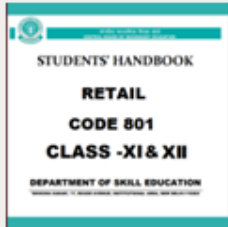
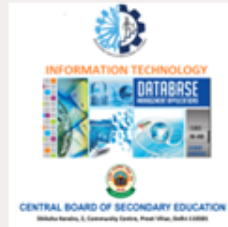
Physical Activity Trainer

Data Science

Electronics & Hardware (NEW)

Foundation Skills For Sciences (Pharmaceutical & Biotechnology)(NEW)

Design Thinking & Innovation (NEW)

SKILL SUBJECTS AT SR. SEC. LEVEL (CLASSES XI – XII)

Retail

InformationTechnology

Web Application

Automotive

Financial Markets Management

Tourism

Beauty & Wellness

Agriculture

Food Production

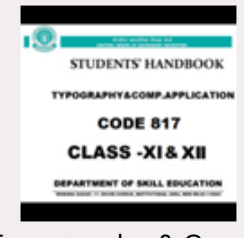
Front Office Operations

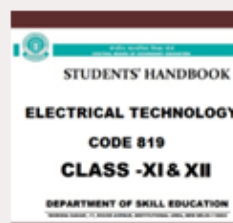
Banking

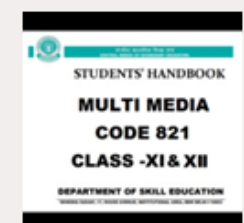
Marketing

Health Care

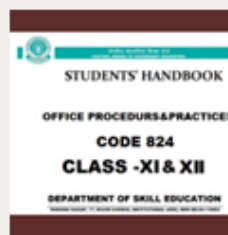
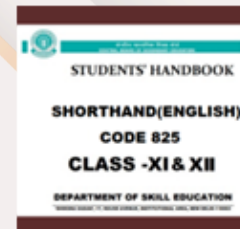
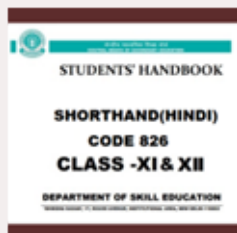
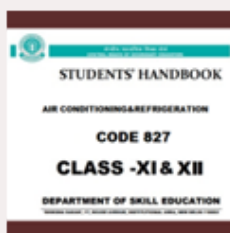
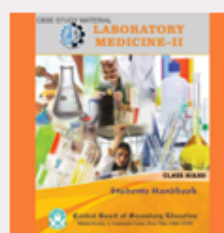
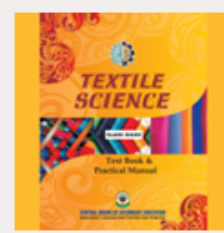
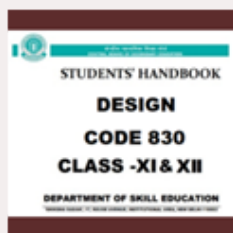
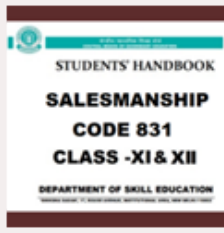
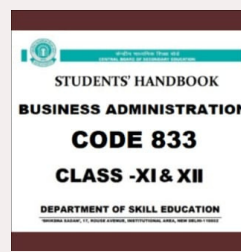
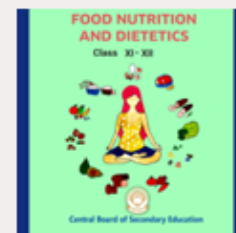
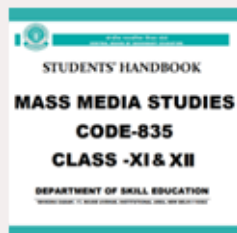
Insurance

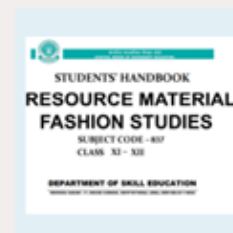
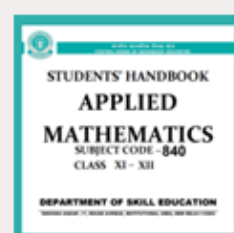
Horticulture

Typography & Comp. Application

Geospatial Technology

Electrical Technology

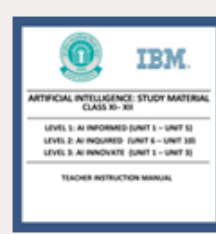
Electronic Technology

Multi-Media

Taxation

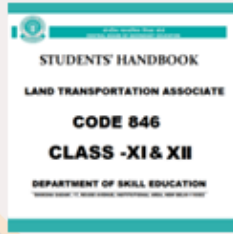
Cost Accounting

Office Procedures & Practices

Shorthand (English)

Shorthand (Hindi)

Air-Conditioning & Refrigeration

Medical Diagnostics

Textile Design

Design

Salesmanship

Business Administration

Food Nutrition & Dietetics

Mass Media Studies

Library & Information Science

Fashion Studies

Applied Mathematics

Yoga

Early Childhood Care & Education

Artificial Intelligence

Data Science

Physical Activity Trainer(new)

Land Transportation Associate (NEW)

Electronics & Hardware (NEW)

Design Thinking & Innovation (NEW)